

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : RAMAJOIS, R. M.
Appl. No. : 10/766,917
Filed : January 30, 2004
Title : GEAR HOUSING VENT
Group Art Unit : 3682
Examiner : PILKINGTON, J.
Docket No. : 08200.809

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

December 12, 2007

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Dear Sir:

In follow-up to the Notice of Appeal filed October 12, 2007, Appellant respectfully requests the Board of Patent Appeals and Interferences consider the following arguments and reverse the decision of the Examiner in whole.

No fees are deemed necessary at this time; however, the Commissioner is hereby authorized to charge applicant's deposition account no. 50-0548 to maintain the pendency of this application.

(1) Real Party in Interest

The real party in interest is TORQUE-TRACTION TECHNOLOGIES, INC.

(2) Related Appeals and Interferences

Related application serial number US 11/139,533 filed on May 31, 2005 is currently under appellate review and may directly or indirectly affect or be directly or indirectly affected by or have a bearing on the decision in the pending appeal.

(3) STATUS OF CLAIMS

1. Claims 1-20 pending in the application.
2. Claims 21-22 have been cancelled.
3. Claims 1-20 have been finally rejected and are being appealed.

(4) STATUS OF AMENDMENT

The Office Action finally rejecting claims 1-20 was mailed on July 12, 2007. On October 12, 2007. On October 12, 2007 Appellant file a petition to accept the drawings along with a Notice of Appeal. Subsequently, there have been no other papers filed by the Appellant or issued by the U.S. PTO.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

The instant invention, as claimed in independent claim 1, is directed to a vent assembly for a housing 51 containing a lubricating fluid and accommodating a gear mechanism. The vent includes a hollow casing 5 having a continuous side wall with at least one hole 15 there through. The hollow casing 5 has an opening 13 formed in a lower portion thereof and a vent tube 3 extending within the hollow casing 5 so as to form a cavity between an inner peripheral surface of said casing 5 and an outer peripheral surface of the vent tube 3. The vent tube 3 has a first open end 7 disposed within the hollow casing and a second end 7 (proximate 9) extending outside the casing in communication with an external environment.

See figures 1-3.

The instant invention, as claimed in independent claim 7, is directed to a vent assembly 1 in combination with a gear housing 51 filled with a lubricating fluid and accommodating a gear mechanism. The vent assembly 1 includes a hollow casing 5 secured substantially within the housing 51. The casing 5 has a continuous side wall having at least one hole 15 there through and terminates at a lower portion having an opening 13 to facilitate return of entrained lubricant to the gear housing 51. A vent tube 3 extends within the hollow casing 5 so as to form a cavity between an inner peripheral surface of said casing 5 and an outer peripheral surface of the vent tube 3. The vent tube 3 includes a first open 7 end disposed within the hollow casing and a second end 7 (proximate 9) extending outside the casing 5 and in communication with an external environment relative to the gear housing 51.

See figures 1-3.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-2, 5-6 & 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga (USP 4,351,203) (hereinafter referred to as Fukunaga '203) in view of Azuma (USP 4,595,118) (hereinafter referred to as Azuma '118).

Claims 3 & 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga '203 in view of Azuma '118 in further view of Rodgers (USP 5,724,864) herein after referred to as Rodgers '865.

Claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga '203 in view of Azuma '118 in view of Rodgers '864 and further in view of Terwoerdes et al. (US 3,422,982) (hereinafter referred to as Terwoerdes '982).

Claims 7-10, 12 15-16 & 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma '118 in view of Fukunaga '203.

Claims 13 & 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma '118 in view of Fukunaga '203 in further view of Rodgers '864.

Claims 14 & 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma '118 in view of Fukunaga '203 in further view of Rodgers '864 and further in view of Terwoerdes '982.

The drawings stand objected to by the Examiner for failing to show in the drawings "said at least one hole through said sidewall includes two holes" as recited in claim 4.

Applicant filed a petition on October 12, 2007 to accept the drawings as they clearly show the recited spaced apart holes.

(7) ARGUMENTS

Sub-Paragraph (iii)

Not applicable. No claims have been rejected as being anticipated under 35 U.S.C. 102.

Sub-Paragraph (iv)

Claims 1-2, 5-6 & 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga (USP 4,351,203) (hereinafter referred to as Fukunaga '203) in view of Azuma (USP 4,595,118) (hereinafter referred to as Azuma '118). Claims 7-10, 12 16 & 20 were rejected over the same two references, Azuma '118 in view of Fukunaga '203.

Regarding claims 1-2, & 7: The prior art fails to disclose a vent assembly having both a hollow casing including a continuous side wall having at least one hole there through and an internal vent tube. Absent hindsight reconstruction, one of ordinary skill in the art has no reason to arrive at the Examiners resultant combination of Fukunaga '203 and Azuma '118. None of the references cited by the Examiner teaches, or provides any suggestion or motivation to provide at least one hole through the sidewall of the casing. In fact Azuma teaches away from forming a hole in the side wall. In fact one of ordinary skill in the art can not easily reconcile the different applications; on the one hand Azuma '118 with requires integrity of the deflector 20 and the other hand the breather plug of Fukunaga '203 which fails to embody the internal vent tube within a casing. The air-breather of Azuma is designed to

be immersed in the oil bath (see col. 3, lines 28-31), while the gear box breather of Fukunaga is designed to be mounted to the housing at the upper portion thereof, substantially above the oil level (see col. 2, lines 12-15 and Figs. 1-2). One of ordinary skill in the art therefore has no reason to arrive at the Examiner modifications as these references cannot be combined as Azuma teaches away from a hole through the sidewall of the deflector 20. Simply stated there is no reason why one of ordinary skill in the art would combine these references to arrive at the claimed embodiment absent intentional hindsight reconstruction of the disclosed invention. If the deflector body 24 of Azuma is provided with at least one hole as taught by Fukunaga, as suggested by the Examiner, then the oil would enter into the deflector body 24 and plug the inlet hole in the plug body 32. However, Azuma specifically discloses that “the baffle plate 40 effectively interrupts the flow of oil so that an air space 44 surrounding the opening 24A in the deflector 20 is formed on the downstream side of the baffle plate 40, so that the entry of oil into the deflector body 24 is prevented” (emphasis added). In other words, providing the deflector body 24 of Azuma with at least one hole as taught by Fukunaga, would effectively prevent functioning of the air-breather device 10 of Azuma as intended.

Thus Azuma teaches directly away from the Examiners modification. Any combination of Azuma ‘118 and Fukunaga ‘203 would either lack the internal vent tube within the casing, or at least one hole through the sidewall of the casing.

Claims 3, 11, 13 & 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Fukunaga ‘203 in view of Azuma ‘118 in further view of Rodgers (USP 5,724,864) herein after referred to as Rodgers ‘865.

Regarding claims 3, 11, 13, & 17 the prior art is void of any combination of the recited casing and beveled vent tube. Azuma fails to disclose the vent tube having the first open end

that is obliquely formed (or beveled with respect to a length of the vent tube) and defining a long side and a short side of the vent tube within the casing, and the hole through the sidewall of the casing being located on a longitudinal first side portion of the casing adjacent the long side of the vent tube. In fact, the vent tube (the plug body 32) of Azuma is truncated and the casing (the deflector body 24) of Azuma has no vent openings at all passing through the side wall thereof. At the same time, Fukunaga fails to disclose the vent tube extending within the hollow casing altogether. Moreover, as previously asserted regarding claims 1 & 7, any resultant combination with Azuma '118 would lack the recited holes in the sidewall of the casing a providing the deflector body 24 of Azuma with at least one hole as taught by Fukunaga, would effectively prevent functioning of the air-breather device 10 of Azuma as intended.

Thus, even if the combination of and modification of Fukunaga and Azuma suggested by the Examiner could be made, the resulting vent assembly still would lack the vent tube having the obliquely formed first open end defining a long side and a short side of the vent tube within the casing, and the hole through the sidewall of the casing being located on a longitudinal first side portion of the casing adjacent the long side of the vent tube.

The Examiner further cites the reference to Rodgers teaching a vent shaft 114 with a beveled end 116 for the purpose of increasing the surface opening of passageway (C4/L26-27). However, the air-breather of Azuma has the oil deflector 20 and an oil-stopper plate 26 for preventing direct lubricant splash from escaping through the plug body 32 of the breather. Therefore, there is no justification to support the Examiner's reconstruction. There is simply no reason, absent applicant disclosure, why one of ordinary skill in the art would so combine these three distinct references to arrive at the claimed invention.

Besides, none of the references cited by the Examiner teaches, or provides any suggestion or motivation to provide at least one hole through the sidewall of the casing located on a longitudinal first side portion of the casing adjacent the long side of the vent tube. Nor would one of ordinary skill in the art have reason to provide the recited hole through the side wall in an arrangement having both the casing and vent tube. Assuming arguendo that one would combine Azuma, Fukunaga and Rodgers suggested by the Examiner, the resulting vent assembly still would lack the vent tube including the casing having at least one hole through the sidewall of the casing located on a longitudinal first side portion of the casing adjacent the long side of the vent tube. Therefore, any rejection of claims 3 & 11 under 35 U.S.C. 103 is improper.

Regarding claims 4, 14, 18, the prior art is simply void of any teaching of multiple holes, let alone longitudinally coextensive holes, in the side wall of the claimed casing. The Examiner has clearly relied on hindsight in a veiled attempt to reconstruct the claimed invention through piece-meal combination of numerous distinct prior art references. It remains a fact that the prior art fails to disclose the recited hole in the side wall of the casing.

In order to even establish a prima-facie case of obviousness, the prior art must teach or suggest each and every limitation. MPEP 2143. Thus as the prior art is so void of the casing with side walls, the casing further being disposed within the vent tube, the Examiner has failed to even establish the prima-facie case of obviousness. Thus the rejections under 35 U.S.C. 103 are improper.

Regarding claims 19-20, the prior art clearly fails to disclose the recited bottom end wall substantially closing the casing. Therefore, the combination and/or modification the teachings of Azuma, Fukunaga and Rodgers cannot be made, thus, the rejection of claims 1-3

under 103(a) is improper.

Sub-Paragraph (v)

The drawings stand objected to by the Examiner for failing to show in the drawings “said at least one hole through said sidewall includes two holes” as recited in claim 4.

Applicant respectfully disagrees. Figs. 1 and 2 of the present application clearly show a pair of vent holes 15 is provided along through a side wall surface of the vent tube 3 (see also page 4, lines 10-14). Applicant previously submitted a petition to reconsider accepting the drawings on October 2007. It is noteworthy that the very same petition was file in related application 11/139,533 which was granted on August 16, 2007.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance, and notice to that effect is earnestly solicited. Appellant may request an oral hearing on the merits within two months after the date of the Examiner's answer.

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(8) APPENDIX OF CLAIMS ON APPEAL

1. A vent assembly for a housing containing a lubricating fluid and accommodating a gear mechanism, said vent assembly comprising:

a hollow casing including a continuous side wall having at least one hole therethrough, the hollow casing having an opening formed in a lower portion thereof; and
a vent tube extending within said hollow casing so as to form a cavity between an inner peripheral surface of said casing and an outer peripheral surface of said vent tube, said vent tube having a first open end disposed within said hollow casing and a second end extending outside said casing in communication with an external environment.

2. The vent assembly according to claim 1, wherein said vent tube and said hollow casing are substantially cylindrical and said cavity is between said casing and tube is substantially annular.

3. The vent assembly according to claim 1, wherein said first open end of said vent tube is beveled with respect to a length thereof and defining a long side and a short side along a longitudinal length of said vent, said at least one hole through said sidewall of said casing being located on a longitudinal first side portion of said casing adjacent said long side of said vent tube.

4. The vent according to claim 3, wherein said at least one hole through said sidewall includes two holes longitudinally spaced apart and longitudinally coextensive along said first side portion of said casing.

5. The vent assembly according to claim 1, wherein said second end of said vent tube is formed with an external retention surface to facilitate a sealed connection to an extension member.

6. The vent assembly according to claim 1, wherein said hollow casing includes a top end wall substantially closing said casing, said vent tube being connected to and at least partially extending through said top wall.

7. A vent assembly in combination with a gear housing filled with a lubricating fluid and accommodating a gear mechanism, said vent assembly comprising:

a hollow casing secured substantially within said housing, said casing including a continuous side wall having at least one hole there through and terminating at a lower portion having an opening to facilitate return of entrained lubricant to said gear housing; and

a vent tube extending within said hollow casing so as to form a cavity between an inner peripheral surface of said casing and an outer peripheral surface of said vent tube, said vent tube having a first open end disposed within said hollow casing and a second end extending outside said casing and in communication with an external environment relative to said gear housing.

8. The combination according to claim 7, wherein a substantial portion of said casing is disposed in a recessed cavity formed in an inner surface of said axle housing

9. The combination according to 7, wherein said hollow casing includes a substantially flat top end wall substantially closing said casing, said top end wall having a

peripheral surface extending beyond said side wall substantially about a periphery of said vent tube.

10. The combination according to claim 9, wherein said peripheral surface engages an external surface of said axle housing, said vent tube being connected to and extending through said top wall and a bore formed in said external surface of said axle housing.

11. The vent assembly according to claim 1, wherein said vent tube is non-truncated such that said first open end is obliquely formed and thereby defines a long side and a short side of said vent tube within said casing, said at least one hole through said sidewall of said casing being located on a longitudinal first side portion of said casing adjacent said long side of said vent tube.

12. The combination according to claim 7, wherein said vent tube and said hollow casing are substantially cylindrical and said cavity is between said casing and tube is substantially annular.

13. The combination according to claim 7, wherein said first open end of said vent tube is beveled with respect to a length thereof and defining a long side and a short side along a longitudinal length of said vent, said at least one hole through said sidewall of said casing being located on a longitudinal first side portion of said casing adjacent said long side of said vent tube.

14. The combination according to claim 13, wherein said at least one hole through said sidewall includes two holes longitudinally spaced apart and longitudinally coextensive along said first side portion of said casing.

15. The combination according to claim 7, wherein said second end of said vent tube is formed with an external retention surface to facilitate a sealed connection to an extension member.

16. The combination according to claim 7, wherein said hollow casing includes a top end wall substantially closing said casing, said vent tube being connected to and at least partially extending through said top wall.

17. The combination according to claim 7, wherein said vent tube is non-truncated such that said first open end is obliquely formed and thereby defining a long side and a short side of said vent tube within said casing, said at least one hole through said sidewall of said casing being located on a longitudinal first side portion of said casing adjacent said long side of said vent tube.

18. The combination according to claim 17, wherein said at least one hole through said sidewall includes two holes longitudinally spaced apart and longitudinally coextensive along said first side portion of said casing.

19. The vent assembly according to claim 1, wherein said hollow casing includes a bottom wall substantially closing said hollow casing, said opening defined by a hole

extending through said bottom wall to facilitate return of entrained lubricant to said gear housing.

20. The combination according to claim 7, wherein said hollow casing includes a bottom wall substantially closing said hollow casing, said opening defined by a hole extending through said bottom wall to facilitate return of entrained lubricant to said gear housing.

(9) EVIDENCE APPENDIX

Not applicable

(10) RELATED PROCEEDINGS APPENDIX

Not applicable